



NSTF DISCUSSION FORUM - PREPARING FOR EPIDEMICS IN SOUTH AFRICA – HUMAN AND ANIMAL - 25-26 February 2021

POLICY RELATED MATTERS

1) PUBLIC HEALTH EMERGENCIES - LESSONS GOING FORWARD

- The recognition that outbreaks are a signal that something underlying is wrong or inadequate in the way that society is structured, and that something must be done to correct this. The COVID-19 pandemic is more than a pandemic – it is a conflation of social weaknesses together with a virus that has exploited the gaps in society such that those who are more weak and vulnerable and have less access to resources suffer an unfair distribution of illness and disease
- Responses to outbreaks require a multi-sectoral co-ordination and response. These structures need to be part and parcel of outbreak and crisis preparedness.
- Health emergencies are not just related to communicable diseases. They are such because of the health consequences of an event (such as a drought, a flood or a policy decision). It is therefore necessary to adopt an all-hazards approach to the preparation for emergencies.
- *The key lessons to take from the South African experience in outbreak investigation management and health emergencies are:*
 - *Continue with policy making to further refine and define the legislative environment in which emergency response takes place*
 - *Investment in data management infrastructure is critical. Pre-emptive data sharing agreements need to be in place, and laboratory testing and clinical information (as well as environmental health related data, economic data and social data) need to be included in the data management infrastructure. It is essential to have the appropriate human resources to support data management and set up structures before the outbreak.*
 - *Investment in training on and preparations for communications is crucial.*

2) POLICIES AND REGULATIONS DEALING WITH DISEASE OUTBREAKS AND EPIDEMICS IN SOUTH AFRICA

It is necessary to strengthen health systems to be resilient and prepared to face existing and future disease threats. The various sectors such as public health, animal health, plant and environmental health, and researchers need to join forces to support the One Health approach to effectively detect, respond to, and prevent public health events including outbreaks of zoonoses and foodborne diseases, and to combat antimicrobial resistance. It is equally important to encourage collaboration and sharing of resources, epidemiological data and laboratory information across sectors and national boundaries.

Support and guidance on how to reduce food safety hazards, risks from zoonoses and other public health threats at the human-animal-ecosystem interface are required. It is necessary to conduct regular monitoring and evaluation of policy implementation activities, including risk assessment, and to strengthen the One Health approach nationally, regionally and globally.

3) ROLE OF INDIGENOUS KNOWLEDGE IN FIGHTING EPIDEMICS OR PANDEMICS

As the third most biodiverse country in the world, South Africa has not yet fully exploited the hidden possibilities of its indigenous plants, nor tapped into the wisdom and knowledge of THPs and others for the benefit of humanity, particularly in times of crisis. In times of epidemics and/or pandemics, national and global politics and economic interests may cloud the objectivity towards IKS. *It is necessary to adopt an inclusive approach and consider every proposed solution with an open mind, to look for evidence through funded research investigation and adopt that which is supported by evidence.*

4) THE USE OF WASTEWATER IN MONITORING OUTBREAKS

- *Metropolitan municipalities have been slow to adopt the WBE approach. The WRC awaited buy-in from the relevant national departments in order for them to take charge of national surveillance using the WBE approach.*
- *WBE and environmental disease surveillance is seen as an important contributor to complementing current activities.*
- WBE can be used as a surveillance technique to identify substance abuse in specific geographic areas and that wastewater sampling gives better signals for COVID-19 than throat and nose swabs
- The WRC work has opened pathways to the surveillance of many other waterborne disease surveillance techniques.

5) SOUTH AFRICA'S RESPONSE TO THE COVID-19 PANDEMIC

- *The lessons learnt from the two waves of the pandemic need to be used to prepare for agile responses to future waves. Equally important is to focus on recovery, reset the agenda and begin to build back better.*
- There is a need for an all-of-government, all-of-society response to COVID-19
- The use of NPIs is key as is the need to accelerate vaccinations
- Planning the recovery and resetting/transformation of the socio-economic system is critical as is the need to become more resilient to deal with subsequent pandemics.

6) MATHEMATICAL MODELLING FOR COVID-19

- *Local data is not always available. This means that assumptions need to be made. Local context is often much better than referring to what is globally available. There is significant expertise in South Africa in order to fill some of the gaps where numeric data is not available*
- Uncertainty in disease models must be highlighted. There must be awareness that the models are sometimes limited
- Public communication is a full-time and ongoing effort
- *Modelling to support decision-making must be adaptable and requires continued interaction with partners*
- Know when models are not appropriate and not responsible to use
- Modelling is a multidisciplinary field and not just for mathematicians.
- *Limited modelling capacity throughout the world highlights the importance of developing capacity over time, in particular, by training young South Africans in the field of disease modelling to ensure that there is a cohort of modellers in the future.*

7) INFORMATION AND COMMUNICATION IN PANDEMIC TIMES

- Building a science culture is about awareness, understanding and valuing science that needs to inform cultural practices, religious practices, traditional medicine, education, media and scientists. This kind of science culture will make it easier for the public to gain information and value it. Much more discussion is required around this topic.
- It is important to build public awareness of key related issues through communication.
- *A number of actions need to be taken in order to prepare for the inevitable next pandemic. These include more research, more global surveillance, more domestic data, more vaccine platforms, more*

coordination, more community engagement and communication, and more primary healthcare.

8) DSI COVID-19 RESEARCH SUPPORT

Much is happening in the DSI that is not widely known. It is an innovative department that stimulates innovation in various ways and sectors, and it was quick to get involved in the country's COVID-19 response.

9) LESSONS FOR COVID-19 FROM INFLUENZA PANDEMICS

- Important lessons have been learnt about strengthening preparedness and much can be learnt from influenza pandemics as these have a lot in common with the COVID-19 pandemic.
- The lesson that should have been learnt from previous outbreaks and pandemics concerns the lack of capacity to produce and manufacture large quantities of vaccines (not just for Influenza) and this means that vaccines will not be available when needed in most countries. *It is critical to increase vaccine manufacturing capacity not only for influenza, but also for other future pandemics in order to ensure early protection.*
- The world would have been more prepared for COVID-19 if the signals of a possible influenza pandemic had been taken more seriously.

10) SARS-COV-2 AND FOODBORNE DISEASE

There is no evidence of SARS-CoV-2 transmission via food. It is therefore not regarded as a foodborne virus and does not cause foodborne disease. Food recalls are unnecessary and have a drastic impact on food security. It is highly unlikely that food packaging is a significant transmission route as such evidence has not been seen to date. Testing for viral RNA versus testing for infectious virus is an important point in terms of interpreting information. Therefore, the greatest risk remains transmission from person-to-person, which is an occupational health and safety matter and not a food safety matter.

11) LESSONS FROM OTHER ZOOSES

- *Biosurveillance is extremely complex and costly, but has a strong role to play in monitoring potential hosts or reservoirs for early detection of pathogens in spillover hosts, allowing for better decision-making about where to target efforts.*
- The host/reservoir ecology as well as the human-animal interfaces need to be understood to identify the high risk activities and where best to target surveillance for early detection. *These matters have been discussed on a global scale, but the information is not available at community level.*
- *So much about how to prevent outbreaks, One Health approaches, biodiversity and pandemics, health security and so on, has been documented nationally and internationally. Now is the time to put these documents into action.*
- *The information already available from previous pandemic experiences and lessons learned for future preparedness need to be used and translated into action through policy and practical guidelines.*
- It is necessary to continue and enhance (despite the challenges):
 - Biosurveillance and a more efficient information system to record pathogen prevalence in populations where it is not causing disease.
 - Basic understanding about the pathogens, reservoir and transmission routes,
 - Understanding reasons for spillover
- It is crucial to have an inter-disciplinary (One Health) and inter-institutional global approach. (The National One Health Forum could get involved in this by getting the sectors together in terms of information and sharing information that is accessible to everyone).

12) BIODIVERSITY SECTOR RESPONSE PLAN TO ZOO NOTIC DISEASES

Governments must ensure that the actions being taken to reduce the impacts of the current pandemic aren't themselves amplifying the risks of future outbreaks and crises, and should consider:

- *Strengthening and enforcement of environmental regulations by deploying stimulus packages that offer incentives for more sustainable and nature-positive activities.*
- *Adopting a 'One Health' approach at all levels of decision-making recognising the complex interconnections among the health of people, animals, plants and our shared environment.*
- *Properly fund and resource health systems and incentivise behaviour change on the frontlines of pandemic risk.*

DEFF together with sector stakeholders are developing a biodiversity sector response plan to zoonotic diseases at the human-animal-environment interface, that will follow a One Health approach that promotes coordinated, cross-sectoral dialogue and collaboration among various stakeholders in all relevant sectors at national, regional and international levels to address common concerns on current and future health threats covering human, animal, and environmental issues.

13) EARTH OBSERVATION DATA APPLICATION AND COVID-19 PANDEMIC

There is a need for more stakeholder engagements outside of pandemics to help government and other users of Earth Observation Technologies to understand and appreciate some of the data sets made available by SANSA, and to demonstrate how the data can be used to support decision-making. This needs to go hand-in hand with awareness and capacity building to ensure that the users are proficient in using the data. Health Analysis Ready Data needs to be developed in order to allow users to access the information they require in a user-friendly manner, without the need for data interpretation. The use of Earth Observation data needs to be encouraged in preparing for pandemics and post-pandemics.

14) CONTROL OF ANIMAL EPIDEMICS IN LIVESTOCK

Disease control is a collective effort. Government alone cannot be effective in animal disease control and is reliant on the expertise and experience of farmers, livestock owners and the industry in general.

15) DETECTING AND PREVENTING THE SPREAD OF MULTISPECIES DISEASE – BOVINE TB

- *Research is crucial to understanding the epidemiology, pathogenesis, risk factors associated with intra- and interspecies transmission and zoonotic potential.*
- *Some of the limitations for advancing comprehension of wildlife TB are the lack of resources to conduct studies, including lack of funding, a paucity of validated species-specific tests and logistical challenges and constraints on accessing animals to take samples.*
- *There are pitfalls when it comes to treatment and control programmes in South Africa.*
- *From the Animal TB Research Group's experience of Bovine TB in South Africa, improved prevention of the spread of animal diseases will require continued generation of scientific evidence, strengthening of sectoral and collaborative approaches (government should work with research groups rather than against them), continuous stakeholder engagement, increased public awareness and co-development of guidelines and policies that lead to action. Evidence-based priorities for addressing TB across all hosts tailored to the needs of specific countries are essential.*
- *There is no central database for the results of all research projects dealing with a certain area. DALRRD would welcome any suggestions in this regard. It is indeed very important to know what research is being done and what the results of that research are. Certain reports and incidents need to be flagged for the record and for decision-making processes. This should be tabled to be addressed outside of this meeting.*
- *The major area where researchers need to work with government concerns output management and data sharing. Human health research teams are doing this and can be exploited for animal research to enhance surveillance of specific diseases in South Africa and to improve knowledge transfer.*

CONCLUSION

- Many of the sectors, organisations, institutions have learnt the same lessons from the COVID-19 pandemic. This reinforces that there are valid lessons to be learnt.
- The challenges at organisational level were not brought out in the presentations and discussions. More

discussion is needed around these challenges and around where improvements are needed in this regard.

- A lack of coordination between different sectors with respect to the COVID-19 response and preparation for future pandemics. There is room for more effective cooperation, coordination and communication between the different role players.
- All sectors need to work together as diseases are multidisciplinary in nature and collaboration across sectors is essential in addressing them.
- *Although there are excellent policies, legislation, strategies, collaborations and coordination at national level, these do not filter down to local or community level. This seems to be more than a governance issue. People from the ground up need to get involved in initiatives so that they have a sense of ownership.*
- *There are different health systems in different provinces, and each province takes its own approach. This is problematic as there is often a lack of coordination between provincial and district levels.*
- *COVID-19 has highlighted the pain-points in the health system. It is necessary to ensure that these problems are not perpetuated going forward, and that they are addressed in the implementation of the National Health Insurance (NHI) in order to create a coherent system across the country.*
- The NSTF should organise a follow-up session to discuss coordination in terms of local governance.
- There should not be a reliance on crisis management. Preparations must be made for pandemics in the long-term, but there are limitations to how much can be considered now in terms of preparing for the future.
- The discussion about the COVID-19 pandemic could also be about climate change. The same principles that apply to COVID-19 pandemic apply to climate change.
- *It is clear from the discussions that there is a lot to be done. The NSTF will put the word out in relation to animal pandemics, but it is government that must take the necessary steps.*